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| 10/026,743 | 12/27/2001 | Hidetoshi Yano | 217740US0 | 2107 |
| 22850 | 7590 | 05/06/2004 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | LEE, SUSAN SHUK YIN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2852 | |

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,743

Applicant(s)

YANO ET AL.

Examiner

Susan S. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) 12,13,17,18,32,33 and 47-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11,14-16,19-31,34-46 and 59-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: Consideration of paper filed 1/17/03.

DETAILED ACTION

Drawings

The drawings remain objected to under 37 CFR 1.83(a). The drawings must show **every feature** of the invention specified in the claims. Therefore, the 1) cross-hatchings of the adsorbent support being elastic according to MPEP sect. 608.02 and 2) voids must be shown or the feature(s) canceled from the claim(s). Currently, adsorbent support is shown as made of metal in Figures 1-5, 9, 11, and 13-15. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. It is not understood why applicant stated that the adsorbent support being an elastic body is shown with correct crosshatchings in the figures when the support is shown as metal according to MPEP sect. 608.02. The language in the claims for example 11, states the "adsorbent support comprises an elastic body". It does not state that the support is a core metal surrounded by an elastic body as stated by applicant in the remarks of the amendment filed 2/9/04. In addition, the brush has an adsorbent support in figures 11 and 15, which is not shown as an elastic material according to MPEP sect. 608.02. A reply such as "an endless belt ... can not be shown in cross hatching in figure 12 is unacceptable. The drawings must show every feature of the invention specified in the claims. Thus, if the endless belt has an elastic adsorbent layer, it must be shown with cross-hatchings according to MPEP

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sect. 608.02, else the feature must be canceled from the claim(s). Applicant did not reply to objection to the drawings because "voids" are not shown in any of the drawings.

Specification

The abstract, as filed with amendment on 2/9/04, of the disclosure remains objected to because on line 6, "therethrough" is not a word in the English language. In addition, what is it modifying or describing? It appears the new abstract is the same as the originally filed abstract.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11, 14-16, 19-31, 34-46, and 59-90 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, lines 4-7, "adsorbent has ... and contain water" is vague and indefinite because it is grammatically awkward.

As to claim 2, lines 3-5, "an adsorbent support supporting an adsorbent having a molecular structure ... and contain water" is vague and indefinite because it is grammatically awkward. Does the adsorbent support contain water or the adsorbent contain water?

As to claim 71, lines 3-6, "an adsorbent support supporting an adsorbent having a molecular structure ... and contain water" is vague and indefinite because it is grammatically awkward. Does the adsorbent support contain water or the adsorbent contain water?

As to claim 72, lines 4-7, "an adsorbent support supporting an adsorbent having a molecular structure ... and contain water" is vague and indefinite because it is grammatically awkward. Does the adsorbent support contain water or the adsorbent contain water?

As to claim 87, line 2, "said direction" lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 19, 20, 34, 59, 60, 64, 71, 72, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma (Japan, 081) in view of Kodama et al. (Japan, 278) and Suzuki et al. (6,118,970).

Azuma discloses apparatus and method of removing substance that disfigures an image such as remaining toner, paper powder, products due to discharging, etc. stuck to the surface of a photosensitive body 3 using a cleaning means 6 with a cleaning roll 61 with a support 61a and a liquid absorber 61b, sponge, fixed on top of the support 61a. The cleaning roll 61 rubs the surface of the photosensitive body 3 with water or an aqueous solution impregnated from the liquid tank 63. This is done before a latent image is produced on the surface of the photosensitive body 3. A solution of diluted nitric acid or ammonium nitrate aqueous solution or the like having the same molecular structure as products due to discharging is preferable, but is not limited to.

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The absorber 61b is a sponge and sponges are well known to have cells. Since the ammonium nitrate aqueous solution has to travel from the tank 63 to the surface of the photosensitive body 3 by impregnating the absorber 61b with the solution, then it would be obvious that the diameter of cells must be greater than the diameter of the molecules of the ammonium nitrate in order to pass the solution onto the surface of the photosensitive body 3. Note abstract, and Figs. 1 and 2.

Azuma differs from the instant invention by not disclosing an adsorbent having molecular structure and voids in the absorber 61b having a diameter great enough to pass molecules of the substance.

Kodama et al. discloses a moisture absorption cleaner for absorbing moisture on the surface of a photoreceptor. The roller is a high molecular weight absorber. This is used to prevent image flow phenomenon. Note abstract. This absorber has a molecular structure since it is made of high molecular weight materials.

Suzuki et al. discloses a cleaning roller 12 having recesses or cells 17 therein a resilient member 16. The cells 17 read on the instant invention's voids. The resilient member 16 is formed of foamed silicone or foamed polyurethane. The diameter D of the openings of cells or voids 17 ranges from 50 to 150 μm . Toner particles have diameters in the range of 6 to 9 μm . Thus, the diameter of the voids is greater than the diameters of the substance, toner particles in this case. Molecules of such substance are smaller so that implies that the molecules of substances are smaller than the diameter of the voids 1. Note abstract, column 3, line 30 – column 4, line 42.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and method of Azuma with that of Kodama et al. so that a print quality is improved as disclosed by Kodama et al. (note abstract) and with that of Suzuki et al. so that ghost images appearing on subsequent print output of the printer can be prevented as disclosed by Suzuki et al. (note column 2, lines 28-32).

Claim 90 is rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma (081), as modified by Kodama et al. (Japan, 278) and Suzuki et al. (970), as applied to claims 1-3, 19, 20, 34, 59, 60, 64, 71, 72, and 78 above, and further in view of Lehman et al. (5,733,698).

Azuma, as modified by Suzuki et al., differ from the instant invention by not disclosing a photoconductor having a surface layer in which a filler is dispersed.

Lehman et al. discloses a photoconductor element used in electrophotography with a photoconductive layer and an outer layer over the photoconductive layer consisting of particulate fillers and a primary material selected from the group consisting of fluoropolymers and silicones. Note column 13, lines 18-28.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Azuma in view of Kodama et al. and Suzuki et al. with that of Lehman et al. so that minimization of beading of toner carrier can be obtained as disclosed by Lehman et al. (note column 3, lines 20-25).

Response to Arguments

Applicant's arguments with respect to claims 1-3, 19, 20, 34, 59, 60, 64, 71, 72, 78, and 90 have been considered but are moot in view of the new ground(s) of rejection. The term "molecular structure" in the claims is interpreted broadly. Any sponge or a foam mentioned in the prior art of this office action is made up of molecules, thus reading on the instant invention's "adsorbent has molecular structure" since the Webster's definition of a molecule is "the smallest particle of a substance that retains all the properties of the substance and is composed of one or more atoms". The sponge or a foam has cells or pores which reads on the instant invention's "voids". In addition, applicant's argument that none of the prior art the Office action relied upon discloses "an adsorbent having molecular voids" (note remarks, page 21, 5th paragraph) is not understood because none of the claims in the instant invention recites this. The claims are interpreted as an absorbent having molecular structure and voids.

Allowable Subject Matter

Claims 4-11, 14-16, 21-31, 35-46, 61-63, 65-70, 73-77, and 79-89 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Simms et al. discloses an absorption made of high density microporous material. Kuramoto (Japan, 067) and Nishimura (Japan, 467) disclose art in foam rollers having molecular structure used in the image forming apparatuses.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 571-272-2137. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 571-272-2136 or 571-272-2800 (Ext. 52). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Susan S. Lee
Primary Examiner
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